AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

1-7. (Canceled)

8. (Currently Amended) A thermochromic polymer layer which can be produced by a method ~~comprising~~consisting of extruding a thermochromic polymer with at least one colourant selected from the group consisting of pyridinium phenolate betaines, sulphophthalein structures, Reichardt colourants, triphenylmethane colourants, pyranines, ~~indicator colourants,~~ flouran colourants, and azo pigments, and with a further additive or additives selected from the group consisting of a melting agent and a developer added to the polymer at the beginning of the extrusion process, to form the thermochromic polymer layer, wherein no concentration gradient of the thermochromic material is present in the resulting layer.

9. (Previously Presented) The polymer layer according to claim 8, wherein a reversible colour switching is effected in a wide temperature range of ΔT from 1 to 25°C.

10. (Previously Presented) The polymer layer according to claim 8, wherein a reversible colour switching is effected in a narrow temperature range of ΔT from 1 to 2°C.

11. (Previously Presented) The polymer layer according to claim 8, wherein the colour switching is accompanied by a changed translucence behaviour.

12. (Previously Presented) The polymer layer according to claim 8, wherein the layer has a layer thickness of 1 μm to 10 cm.

13. (Previously Presented) The polymer layer according to claim 12, wherein the layer thickness is from 1 μm to 1 mm.

14. (Previously Presented) The polymer layer according to claim 12, wherein the polymer layer is a polymer film.

15. (Previously Presented) A multilayer layer composite system containing at least one thermochromic polymer layer according to claim 8 and at least one further film.

16. (Canceled)

17. (Previously Presented) The polymer layer according to claim 8, wherein the melting agent is selected from the group consisting of octadecanol, dodecanol, hydroxylic acids and 1-hexadecanol and combinations thereof.

18. (Previously Presented) The polymer layer according to claim 8, wherein the developer is selected from the group consisting of 2,2'-bis(4-hydroxyphenyl)propane, 2,2'-bis(4-hydroxyphenyl)sulphone and gallic acid dodecyl ester and combinations thereof.

19. (Previously Presented) The polymer layer according to claim 8, wherein the colourant is added to the polymer in a supply funnel of the extrusion process.

20. (Previously Presented) The polymer layer according to claim 8, wherein the colourant, the polymer and the further additive or additives are provided in the form of a master batch.

21. (Previously Presented) The polymer layer according to claim 8, wherein the polymer is selected from the group consisting of polyethylene, polypropylene, polyester, polyamide, and acrylonitrile-butadiene-styrene-copolymer and combinations thereof.

22. (Canceled)

23. (Previously Presented) The multilayer composite system according to claim 15, wherein the melting agent present in the at least one thermochromic polymer layer is selected from the group consisting of octadecanol, dodecanol, hydroxylic acids and 1-hexadecanol and combinations thereof.

24. (Previously Presented) The multilayer composite system according to claim 15, wherein the developer present in the at least one thermochromic polymer layer is selected from the group consisting of 2,2'-bis(4-hydroxyphenyl)propane, 2,2'-bis(4-hydroxyphenyl)sulphone and gallic acid dodecyl ester and combinations thereof.

25. (Previously Presented) The multilayer composite system according to claim 15, wherein the colourant is added to the polymer of the at least one thermochromic polymer layer in a supply funnel of the extrusion process to prepare the at least one thermochromic polymer layer.

26. (Previously Presented) The multilayer composite system according to claim 15, wherein the colourant, the polymer and the further additive or additives are provided in the

form of a master batch during the preparation of the at least one thermochromic polymer layer.

27. (Previously Presented) The multilayer composite system according to claim 15, wherein a reversible colour switching is effected in the at least one thermochromic polymer layer in a wide temperature range of ΔT from 1 to 25°C.

28. (Previously Presented) The multilayer composite system according to claim 15, wherein a reversible colour switching is effected in the at least one thermochromic polymer layer in a narrow temperature range of ΔT from 1 to 2°C.

29. (Previously Presented) The multilayer composite system according to claim 15, wherein the colour switching in the at least one thermochromic polymer layer is accompanied by a changed translucence behaviour.

30. (Previously Presented) The multilayer composite system according to claim 15, wherein the at least one thermochromic polymer layer has a thickness of 1 μm to 10 cm.

31. (Previously Presented) The multilayer composite system according to claim 15, wherein the at least one thermochromic polymer layer has a thickness of 1 μm to 1 mm.